SANTA CRUZ BIOTECHNOLOGY, INC.

p-MEK-3/6 (B-9): sc-8407

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

A family of protein kinases located upstream of the MAP kinases and responsible for their activation has been identified. The prototype member of this family, designated MAP kinase kinase, or MEK-1, specifically phosphorylates the MAP kinase regulatory threonine and tyrosine residues present in the Thr-Glu-Tyr motif of ERK. A second MEK family member, MEK-2, resembles MEK-1 in its substrate specificity. MEK-3 (or MKK-3) functions to activate p38 MAP kinase, and MEK-4 (also called SEK1 or MKK-4) activates both p38 and JNK MAP kinases. MEK-5 appears to specifically phosphorylate ERK5, whereas MEK-6 phosphorylates p38 and p38b. MEK-7 (or MKK-7) phosphorylates and activates the JNK signal transduction pathway.

CHROMOSOMAL LOCATION

Genetic locus: MAP2K3 (human) mapping to 17q11.2, MAP2K6 (human) mapping to 17q24.3; Map2k3 (mouse) mapping to 11 B2, Map2k6 (mouse) mapping to 11 E2.

SOURCE

p-MEK-3/6 (B-9) is a mouse monoclonal antibody raised against a sequence containing Ser 189 and Ser 207 phosphorylated MEK-3/6 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p-MEK-3/6 (B-9) is available conjugated to agarose (sc-8407 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-8407 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8407 PE), fluorescein (sc-8407 FITC), Alexa Fluor® 488 (sc-8407 AF488), Alexa Fluor® 546 (sc-8407 AF546), Alexa Fluor® 594 (sc-8407 AF594) or Alexa Fluor® 647 (sc-8407 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8407 AF680) or Alexa Fluor® 790 (sc-8407 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-8407 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

p-MEK-3/6 (B-9) is recommended for detection of MEK-3 and MEK-6 phosphorylated at Ser 189 and Ser 207 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

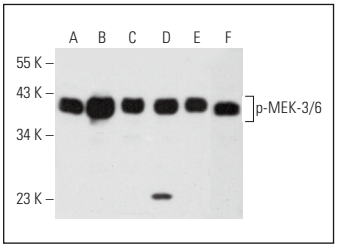
Suitable for use as control antibody for MEK-3/6 siRNA (h): sc-43924, MEK-3/6 shRNA Plasmid (h): sc-43924-SH and MEK-3/6 shRNA (h) Lentiviral Particles: sc-43924-V.

Molecular Weight of p-MEK-3/6: 40/37 kDa.

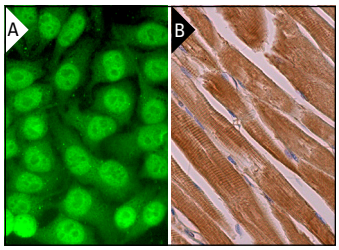
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



p-MEK-3/6 (B-9): sc-8407. Western blot analysis of MEK-3/6 phosphorylation in COLO 320DM (**A**), K-562 (**B**), NIH/3T3 (**C**), RAW 264.7 (**D**), KNRK (**E**) and L8 (**F**) whole cell lysates.



p-MEK-3/6 (B-9): sc-8407. Immunofluorescence staining of formalin-fixed HeLa cells showing nuclear and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes (**B**).

SELECT PRODUCT CITATIONS

1. Wang, D., et al. 2001. Nuclear factor κB activation by the CXC chemokine melanoma growth-stimulatory activity/growth-regulated protein involves the MEKK1/p38 mitogen-activated protein kinase pathway. J. Biol. Chem. 276: 3650-3659.
2. Roos-Mattjus, P., et al. 2003. Phosphorylation of human Rad9 is required for genotoxin-activated checkpoint signaling. J. Biol. Chem. 278: 24428-24437.
3. Falsig, J., et al. 2004. Specific modulation of astrocyte inflammation by inhibition of mixed lineage kinases with CEP-1347. J. Immunol. 173: 2762-2770.
4. Alvarez, M.E., et al. 2006. Neutrophil signaling pathways activated by bacterial DNA stimulation. J. Immunol. 177: 4037-4046.
5. Prickett, T.D., et al. 2007. Cytokine activation of p38 mitogen-activated protein kinase and apoptosis is opposed by α-4 targeting of protein phosphatase 2A for site-specific dephosphorylation of MEK-3. Mol. Cell. Biol. 27: 4217-4227.
6. Xia, Z.P., et al. 2009. Direct activation of protein kinases by unanchored polyubiquitin chains. Nature 461: 114-119.
7. Banh, S. and Hales, B.F. 2013. Hydroxyurea exposure triggers tissue-specific activation of p38 mitogen-activated protein kinase signaling and the DNA damage response in organogenesis-stage mouse embryos. Toxicol. Sci. 133: 298-308.
8. Saha, K., et al. 2014. p38δ regulates p53 to control $p21^{Cip1}$ expression in human epidermal keratinocytes. J. Biol. Chem. 289: 11443-11453.

RESEARCH USE

For research use only, not for use in diagnostic procedures.